



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/621,264

07/15/2003

Ikuo Hayaishi

MIPFP043

9725

25920

7590

01/12/2009

MARTINE PENILLA & GENCARELLA, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

EXAMINER

YODER III, CHRISS S

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

01/12/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/621,264	Applicant(s) HAYAISHI, IKUO	
	Examiner CHRISS S. YODER III	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-16, 22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-16, 22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed September 23, 2008 have been fully considered but they are not persuasive.

Applicant argues, with respect to claims 1, 22, and 24, that Matsuura uses a lookup table (LUT) to correct luminance, and that the target area of the luminance correction is the entire image.

However, the Examiner notes that Matsuura is considered to have multiple target areas that include a portion of the image being linked corresponding to brightness values, and each having a different correction characteristic (e.g., in Figure 8, the area from 0 to RS,GS,BS is considered to be one target area, the area from RS,GS,BS to GH,BH,RH is considered to be a second target area, the area from GH,BH,RH to 255 is considered to be a third target area). Additionally, the Examiner notes that claims 1, 22, and 24 currently read:

“wherein a target area of processing targeted for the image quality adjustment processing is a portion of an entire image that includes one or more partial areas of the image, and wherein at least one partial area of the image includes a first type area of linked maximum brightness pixels having maximum possible brightness value”,

and as such, does not exclude the processing of other portions of the image, but simply that a target area that includes a first type area of linked maximum brightness pixels having maximum possible brightness value.

Therefore, since Matsuura is considered to include the use a target area of processing targeted for the image quality adjustment processing, that including a portion

Art Unit: 2622

of an entire image that includes one or more partial areas of the image, and wherein at least one partial area of the image includes a first type area of linked maximum brightness pixels having maximum possible brightness value (figure 8: the area from GH,BH,RH to 255), and that there are no claim limitations excluding the use of more than one target area (e.g., multiple target areas, each having different brightness levels/ranges), the combination of Sano in view of Matsuura discloses all of the claimed limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1-3, 5-6, 10-12, 14-16, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,739,924) in view of Matsuura (US Patent 6,493,468).**

2. In regard to **claim 1**, note Sano discloses a method of performing image processing using image data generated by an image generator and image generation record information that is associated with the image data (column 1, lines 63-67) and that includes at least supplementary light source flash information at the time of generation of the image data (column 4, lines 46-51), the method comprising judging whether to execute image quality adjustment processing on the basis of the

supplementary light source flash information contained in the image generation record information (column 8, line 40 – column 10, line 18 and figure 3), and in case it is judged to execute the image quality adjustment processing, executing the image quality adjustment processing to adjust the image data so that variation in brightness values is minimized in a highest value range within an entire possible range for brightness values represented by the image data (column 9, lines 15-25 and figure 6). Therefore, it can be seen that Sano fails to explicitly disclose that a target area of processing targeted for the image quality adjustment processing is a portion of an entire image that includes one or more partial areas of the image, and wherein at least one partial area of the image includes a first type area of linked maximum brightness pixels having maximum possible brightness value.

In analogous art, Matsuura discloses the use of a target area of processing targeted for the image quality adjustment processing including a portion of an entire image that includes one or more partial areas of the image, and wherein at least one partial area of the image includes a first type area of linked maximum brightness pixels having maximum possible brightness value (column 10, lines 1-11: the pixels in the range 99%-100%; and figure 8: the area from GH,BH,RH to 255). Matsuura teaches that the use of a target area of processing targeted for the image quality adjustment processing including a portion of an entire image that includes one or more partial areas of the image, and wherein at least one partial area of the image includes a first type area of linked maximum brightness pixels having maximum possible brightness value is preferred in order to suppress bleaching out of highlight areas (column 12, lines 32-59).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Sano to include the use of a target area of processing targeted for the image quality adjustment processing that includes a portion of an entire image including one or more partial areas of the image, and wherein at least one partial area of the image includes a first type area of linked maximum brightness pixels having maximum possible brightness value in order to suppress bleaching out of highlight areas, as suggested by Matsuura.

3. In regard to **claim 2**, note Sano discloses that the image quality adjustment includes judging, on the basis of the supplementary light source flash information contained in the image generation record information, whether there was illumination by the supplemental light source at the time of generation of the image data is made, and executing the image quality adjustment processing in case a judgment (a) to the effect that "there was illumination by the supplemental light source at the time of generation of the image data" is realized (column 8, line 57—column 9, line 61).

4. In regard to **claim 3**, note Sano discloses that the image generation record information further includes information relating to a distance between a subject and the image generator of the image data at the time of generation of the image data (column 4, lines 46-51), and the image quality adjustment includes performing a process wherein regardless of realization of the judgment (a), in case a judgment (b) to the effect that "the distance from the subject is not within a first predetermined close range" is realized, execution of the image quality adjustment processing is halted, or a degree of

brightness value adjustment in the image quality adjustment processing is reduced (column 6, line 64 – column 7, line 25).

5. In regard to **claim 5**, note Sano discloses that the image generation record information further includes information relating to aperture value of the image generator at the time of generation of the image data (column 4, lines 46-51), and the image quality adjustment includes adjusting the first predetermined close range at least on the basis of the aperture value (column 8, lines 40-56).

6. In regard to **claim 6**, note Sano discloses that the image generation record information further includes information relating to sensitivity of an optical circuit of the image generator at the time of generation of the image data (column 4, lines 46-51; the aperture and speed values are related to the sensitivity), and the image quality adjustment includes adjusting the first predetermined close range at least on the basis of the optical circuit sensitivity (column 8, lines 40-56).

7. In regard to **claim 10**, note Sano discloses that the image generation record information further contains information relating to a distance between a subject and the image generator at the time of generation of the image data (column 4, lines 46-51), and the image quality adjustment includes adjusting a degree of brightness value adjustment in the image quality adjustment processing at least on the basis of distance from the subject (column 6, line 64 – column 7, line 25).

8. In regard to **claim 11**, note Sano discloses that the image generation record information further includes information relating to aperture value of the image generator at the time of generation of the image data (column 4, lines 46-51), and the image

quality adjustment includes adjusting a degree of brightness value adjustment in the image quality adjustment processing at least on the basis of the aperture value (column 8, lines 40-56).

9. In regard to **claim 12**, note Sano discloses that the image generation record information further includes information relating to sensitivity of an optical circuit of the image generator at the time of generation of the image data (column 4, lines 46-51; the aperture and speed values are related to the sensitivity), and the image quality adjustment includes adjusting a degree of brightness value adjustment in the image quality adjustment processing at least on the basis of the sensitivity (column 8, lines 40-56).

10. In regard to **claim 14**, note Matsuura discloses a second type area meeting a specific condition, situated in the vicinity of the first type area (column 10, lines 1-11: the pixels in the range 96%-97%).

11. In regard to **claim 15**, note the primary reference of Sano in view of Matsuura discloses the use of a method of performing image processing using image data generated by an image generator and image generation record information that is associated with the image data, as discussed with respect to claim 13 above.

Therefore, it can be seen that the primary reference fails to explicitly disclose that the specific condition includes at least a condition (e) to the effect that “the second type area is composed of pixels whose shortest distance from the first type area is equal to or less than a first predetermined distance”. Official Notice is taken that the concepts and advantages of determining a secondary region of processing based on the distance

from a primary region of image data are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference to include the selection of the second type area based on the distance from the first type area in order to blend the highlight regions with the rest of the image, as well as provide proper edge enhancement/softening.

Additionally, the selection of the second type area based on the distance from the first type area is now taken to be admitted prior art because Applicant failed to traverse the Examiner's assertion of Official Notice in reply to the Office Action in which the common knowledge statement was made. See MPEP §2144.03.

12. In regard to **claim 16**, note Matsuura discloses that the specific condition includes at least a condition (f) to the effect that "the second type area is an area composed of pixels whose brightness value is equal to or greater than a second predetermined brightness value, and is an area linked to the first area" (column 10, lines 1-11: the pixels in the range 96%-97%).

13. In regard to **claim 22**, this is an apparatus claim, corresponding to the method of claim 1. Therefore, claim 22 has been analyzed and rejected as previously discussed with respect claim 1.

14. In regard to **claim 24**, this is a computer product claim, corresponding to the method of claim 1. Therefore, claim 24 has been analyzed and rejected as previously discussed with respect claim 1.

15. **Claims 4, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,739,924) in view of Matsuura (US Patent 6,493,468), and further in view of Sosa et al. (US Patent 5,016,039).**

16. In regard to **claim 4**, note the primary reference of Sano in view of Matsuura discloses a method of performing image processing using image data generated by an image generator and image generation record information that is associated with the image data, as discussed with respect to claim 3 above. Therefore, it can be seen that the primary reference fails to explicitly disclose that the image generation record information further includes information relating to quantity of light of the supplemental light source at the time of generation of the image data, and that the image quality adjustment includes adjusting the first predetermined close range at least on the basis of the quantity of light. However, Sano does disclose that the “close range” can be adjusted in connection with photographic information.

In analogous art, Sosa discloses the use of an image generation record information that includes information relating to the quantity of light of a supplemental light source at the time of generation of the image data (column 15, lines 53-67), and an image quality adjustment that adjusts an image based on at least on the basis of the quantity of light (column 15, lines 53-67). Sosa teaches that the use of image generation record information that includes information relating to the quantity of light of a supplemental light source at the time of generation of the image data, and an image quality adjustment that adjusts an image at least on the basis of the quantity of light is preferred in order to process the image for proper reproduction of colors with respect to

Art Unit: 2622

the ratio of natural and supplemental lighting (column 15, lines 53-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Sano in view of Matsuura by combining the “close range” adjustment of Sano to be adjusted corresponding to the information relating to quantity of light of the supplemental light source at the time of generation of the image data in order to reproduce the image with a proper balance of natural and supplemental lighting, as suggested by Sosa.

17. In regard to **claim 7**, note the primary reference of Sano in view of Matsuura discloses a method of performing image processing using image data generated by an image generator and image generation record information that is associated with the image data, as discussed with respect to claim 2 above. Therefore, it can be seen that the primary reference fails to explicitly disclose that the image generation record information further includes information relating to quantity of light of the supplemental light source at the time of generation of the image data, and the image quality adjustment includes wherein regardless of realization of the judgment (a), when a judgment (c) to the effect that “the quantity of light is not within a predetermined range” is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced.

In analogous art, Sosa discloses the use of an image generation record information that includes information relating to quantity of light of the supplemental light source at the time of generation of the image data (column 15, lines 53-67), and an image quality adjustment, in case a judgment (c) to the effect that “the quantity of light is

Art Unit: 2622

not within a predetermined range” is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced (column 15, lines 53-67). Sosa teaches that the use of image generation record information that includes information relating to quantity of light of the supplemental light source at the time of generation of the image data, and an image quality adjustment, in case a judgment (c) to the effect that “the quantity of light is not within a predetermined range” is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced is preferred in order to process the image for proper reproduction of colors with respect to the ratio of natural and supplemental lighting (column 15, lines 53-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Sano in view of Matsuura such that the image generation record information further includes information relating to quantity of light of the supplemental light source at the time of generation of the image data, and the image quality adjustment includes wherein regardless of realization of the judgment (a), when a judgment (c) to the effect that “the quantity of light is not within a predetermined range” is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced in order to reproduce the image with a proper balance of natural and supplemental lighting, as suggested by Sosa.

18. In regard to **claim 9**, note the primary reference of Sano in view of Matsuura discloses a method of performing image processing using image data generated by an

Art Unit: 2622

image generator and image generation record information that is associated with the image data, as discussed with respect to claim 1 above. Therefore, it can be seen that the primary reference fails to explicitly disclose that the image generation record information further contains information relating to quantity of light of the supplemental light source at the time of generation of the image data, and the image quality adjustment includes adjusting a degree of brightness value adjustment in the image quality adjustment processing at least on the basis of the quantity of light.

In analogous art, Sosa discloses the use of an image generation record containing information relating to quantity of light of the supplemental light source at the time of generation of the image data (column 15, lines 53-67), and an image quality adjustment adjusts a degree of brightness value adjustment in an image quality adjustment processing at least on the basis of the quantity of light (column 15, lines 53-67). Sosa teaches that the use of an image generation record containing information relating to quantity of light of the supplemental light source at the time of generation of the image data, and an image quality adjustment that adjusts a degree of brightness value adjustment in an image quality adjustment processing at least on the basis of the quantity of light is preferred in order to process the image for proper reproduction of colors with respect to the ratio of natural and supplemental lighting (column 15, lines 53-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Sano in view of Matsuura such that the image generation record information further contains information relating to quantity of light of the supplemental light source at the time of generation of the image data, and the image

quality adjustment includes adjusting a degree of brightness value adjustment in the image quality adjustment processing at least on the basis of the quantity of light in order to reproduce the image with a proper balance of natural and supplemental lighting, as suggested by Sosa.

19. **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,739,924) in view of Matsuura (US Patent 6,493,468), and further in view of Terashita (US Patent 7,359,571).**

20. In regard to **claim 8**, note the primary reference of Sano in view of Matsuura discloses a method of performing image processing using image data generated by an image generator and image generation record information that is associated with the image data, as discussed with respect to claim 2 above. Therefore, it can be seen that the primary reference fails to explicitly disclose that the image quality adjustment includes performing a process wherein regardless of realization of the judgment (a), in case a judgment (d) to the effect that “size of an area of linked pixels having brightness above a first predetermined brightness value in the image data is larger than a predetermined threshold value” is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced.

In analogous art, Terashita discloses the use of an image quality adjustment performing a process, wherein in case a judgment (d) to the effect that “size of an area of linked pixels having brightness above a first predetermined brightness value in the

Art Unit: 2622

image data is larger than a predetermined threshold value" is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced (column 5, line 27—column 6, line 57; when the face area is recognized, the brightness is adjusted).

Terashita teaches that the use of an image quality adjustment performing a process, wherein in case a judgment (d) to the effect that "size of an area of linked pixels having brightness above a first predetermined brightness value in the image data is larger than a predetermined threshold value" is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced is preferred in order to improve reproducibility in both the highlight range and the shadow range (column 6, lines 58-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Sano in view of Matsuura such that the image generation record information further includes information relating to quantity of light of the supplemental light source at the time of generation of the image data, and the image quality adjustment includes wherein regardless of realization of the judgment (a), when a judgment (c) to the effect that "the quantity of light is not within a second predetermined range" is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced in order to improve reproducibility in both the highlight range and the shadow range, as suggested by Terashita.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISS S. YODER III whose telephone number is (571)272-7323. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. S. Y./
Examiner, Art Unit 2622

/Lin Ye/
Supervisory Patent Examiner, Art Unit 2622